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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,306	07/03/2002	Donald F. Hooper	10559-303US1	1999
20985 7590 04/26/2007 FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER PAN, DANIEL H	
			ART UNIT	PAPER NUMBER
			2183	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		04/26/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/069,306	Applicant(s) HOOPER ET AL.	
	Examiner Daniel Pan	Art Unit 2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-8,10-16,18-22 and 24 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,9,17,23 and 25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8, 11,15,16,20,22, 24,26 is/are rejected.
- 7) ☒ Claim(s) 4-7,10,12-14,18,19 and 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>02/23/07</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. Claims 1, 4-8, 10-16, 18-22, 24. Claims 2, 3, 9, 17, 23, 25 have been canceled. Dependent claim 26 has been added.

2. Claim 24 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The reasons are given below.

3. Claims 1, 8, 15, 16, 20, 22, 24, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moiler (4,868,735) in view of Bitar (5,872,963) in view of Adkins (5,247,671) and Colleran et al. (6,005,575)

4. As to the newly amended feature of "user-specified", no level of user has been reflected into the claim. Therefore, "user" is read as any user. Moiler taught his microinstructions were designed to support structures microprogramming and provided the micro program controller with such structured constructs, such as CASE, REPEAT,...UNTIL, DO...WHILE, FOR...DOWN TO, IF...THEN statements (see col.3, lines 44-54). Therefore, the conditions or the arguments were the user specified parameters.

5. As to the newly added claim 26, Moiler taught structured constructs, such as CASE, REPEAT,...UNTIL, DO...WHILE, FOR...DOWN TO, IF...THEN statements (see col.3, lines 44-54). Therefore, voluntary was also applicable in Moiler because of the programming nature of the user defined parameters.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moiler et al. (4,868,735) in view of Bitar (5,872,963) in view of Adkins (5,247,671) and Colleran et al. (6,005,575) as applied to claim 1 above, and further in view of Turner et al. (6,505,229).

Claims 4, 5, 18, 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the combined details of the sram swap (claims 4, 18) and sdram swap (claims 5, 19).

7. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the FBI swapping and wakeup when the thread's FBI was received indicating the FBI CSR, Scratchpad, TFIFO, or RFIFO has completed.

8. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the parameter "seq num1 change/seq-num2 change" which specifies swap out of the current context and wakes it up when the value of the sequence number changes.

9. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the auto-push for swapping out and wakes up when SRAM transfer read register data has been automatically pushed by Fbus interface.

10. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the parameter specifying kill for preventing the current context or thread from executing again until the appropriate enable bit for the thread is set in the CTX ENABLES register.

11. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches

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the user specified swap pci parameter for swapping out and wakes up when the PCI unit signals a DMA transfer has been completed.

12. Claims 14,21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the optional -token "defer one" specified in the swap instruction executing the additional instruction of the currently running context before the context was swapped.

13. The rejections are maintained and incorporated by reference the last Office action on 10/13/06.

14. The response field on 02/09/07 has been fully considered but is not persuasive.

15. In the remarks, applicant argued that :

- a) Claim 24 has been amended to storage device;
- b) The Swap microinstruction are not user instruction;
- c) Bitar does not provide user specified parameter.

16. As to a) claim 24 as recited is directed to a computer program product residing in a computer readable storage device for causing a multithreaded parallel processor to perform a function (see claim 24, preamble). No specific program product components of the program product, nor the specific storage device elements are being reflected into the claim to impart the functionalities of the computer. The details of parallel processor and the computer are not being reflected into the claim. Therefore, the program product, the parallel processor, and the readable storage device are read as general arrangement of the functional parts. It is read as a general functionality of an arrangement of the generic parts. Furthermore, the focus is not on the step or feature taken to achieve a final result which is useful, concrete, and tangible, but rather than a final result achieved which is useful, concrete, and tangible. The final result of the

method steps, such as the receive, performing, and wakeup, is unclear. Therefore, no substantial practical application can be found.

17. As to b) above, see the reponse by examiner regarding the programmable user construct set forth in paragraphs 4,5.

18. As to c), Bitar was used to supplement the teaching of parallel thread (see Page 4, Paragraph 8 of last Office action). The reasons of obviousness were already provided in Paragraph 8 of the last Office action. Therefore, it will not be repeated herein.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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